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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/270,688	03/16/1999	DANIEL DAVID YOUNG	2407-0004	2820

7590

03/08/2004

SIXBEY, FRIEDMAN, LEEDOM & FERGUSON
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MCLEAN, VA 22102

EXAMINER

CADUGAN, ERICA E

ART UNIT	PAPER NUMBER
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3722

DATE MAILED: 03/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/270,688

Applicant(s)

YOUNG ET AL.

Examiner

Erica E Cadugan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,4 and 6-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,4 and 6-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. In the amendment filed 1/26/04, claim 15, (as also noted in the Examiner's Answer), while set forth as being "original" and thus unamended, is not an accurate reproduction of the original claim 15. Specifically, claim 15 does not include --laser-- prior to "scanning". Claim 15 is being considered as it was filed in the amendment of 1/26/04.

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1, 4, 6, and 7-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,449,256 (Sundman) in view of U.S. Patent No. 5,712,803 (Garuet-Lempirou).

Sundman teaches a system for use in an office environment for milling custom shoe insoles, where this system includes a foot contour measurement machine (column 1, lines 42-43) and a mill 10 for machining the insoles. The mill has a disk drive 15 for receiving the foot contour measurement data, which then controls the x, y, and z, movements of the milling head 21 to produce a desired insole contour (column 5, lines 27-34). To mill the insole, an insole blank 11 is mounted to a support tray 12. The relative motion in x, y, or z directions between the milling cutter and the insole blank may be achieved by moving the insole blank/tray, and/or by moving the milling head (column 3, lines 25-37). Motion of the milling head 21 and/or the motion of the tray 12 is controlled by stepper motors 51, 55, and 510 that act in response to the data inputted from the contour measurement machine. Sundman's milling station also includes a particle control system with positive-pressure air flow (column 7, lines 39-41) generated by fans,

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so that particles may be collected in tray 14 and disposed of. The air and the particles flow through channels 67-69, which, being enclosed and having higher pressure than that of the outside air, constitute plenums. The entrance 62 to these plenums is disposed in the vicinity of the milling assembly (column 7, lines 61-62). The velocity of the air flow through each channel is inversely proportional to the volume of air flowing through each channel (column 8, lines 35-41). The air flow velocity is sufficient to eliminate particulate flux from the milling cavity (column 7, lines 45-48). According to the current application on page 7, line 24, the velocity of the air flow must be low enough to grab the debris particles, which Sundman's velocity is.

Sundman does not teach a laser scanner to scan the foot, but instead teaches a device having an array of parallel pins, each pin displaceable longitudinally such that when a foot is pressed against the pins, the longitudinal displacement of the pins represents the contour of the foot. Sundman also does not teach that the computer (with disk drive 15) is located in a lower portion of the milling machine stand, but instead teaches that it is located approximately in the middle portion of the stand (see Figure 1A).

Garuet-Lempirou teaches a device for scanning the sides and undersurface of a foot 4 (Figure 1) that is set on transparent glass base 40 (Figure 1 and column 5, lines 57-58, and column 1, lines 62-63). Garuet-Lempirou's device utilizes laser-generating sensors (column 2, lines 30-32 and column 3, lines 16-17 and 31-37) Ca1 through Ca4 (column 4, line 52 and Figure 1). The sensors are attached to a cradle 2 that moves in translation along longitudinal foot axis 4 (column 5, lines 65-67 and Figure 1). The cradle 2 has vertically-extending sides connected by a horizontally-extending portion, and is shaped so that the vertically-extending sides are outside of the width of base 40 and that the horizontally-extending portion is below base 40 (Figure 1 and

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column 6, line 41). Thus, regarding claim 14, the sensors disposed on the cradle beneath the base 40 are movable beneath the base 40 (see Figure 1 and column 6, lines 39-44).

Regarding claim 16, the plane or “fan” of laser light extends through the transparent base 40 as just described. Also regarding claims 16 and 18, Garuet-Lempirou’s “transparent material” or “glass” for base 40 inherently includes tempered safety glass (column 5, lines 57-58, and column 1, lines 62-63).

Regarding claim 19, note that the sensors or “laser scanning units” Ca1 through Ca4 are disposed so as to be movable along the sides and base (Figure 1).

Regarding claim 21, the entire scanning device of Garuet-Lempirou (shown in Figure 1) acts as an input device for inputting information about the customer, i.e., the three-dimensional map of the customer’s foot, to a signal processing system 3 having display Visu (Figure 2 and column 5, lines 7-10, 16-18, and 25-37). Garuet-Lempirou further teaches that the data acquired via the foot-scanning device may be supplied to and used to control automatic processing devices (column 6, lines 30-35).

Regarding the new limitations in the independent claims, it is noted that the entire purpose of Garuet-Lempirou’s scanning device is to “determine data which directly correlates to distance measurements between the at least one laser scanning unit and the underside of the foot” as claimed (see columns 4-6 and col. 10, lines 10-25, for example, also columns 1-2).

Regarding the new limitation in claim 16, it is noted that the foot in Garuet-Lempirou is being “directly” measured (see Figure 1, for example).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have replaced the longitudinal-pin-type foot contour measurement

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machine taught by Sundman with the laser scanning foot contour measurement device taught by Garuet-Lempirou for the purpose of being able to acquire three-dimensional foot data that takes into account the entire measured surface area rather than just the selected points where the longitudinal pins of Sundman's device contact the foot, thus increasing the accuracy of the measured foot data, thus allowing a better fitting shoe insole to be manufactured, as would be readily understood by one of ordinary skill in the art.

Regarding the placement of the control device in the milling stand, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have placed this control device wherever was desired or expedient, particularly since moving the device from the middle portion of the stand to the lower portion of the stand would not affect the operation of Sundman's device, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70.

4. Claim 3, as best understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,449,256 (Sundman) in view of U.S. Patent No. 5,712,803 (Garuet-Lempirou) as applied to claim 1 above, and further in view of Applicant's admission of prior art (AAPA) on page 8, lines 11-15. Sundman and Garuet-Lempirou disclose all of the elements as claimed as described above, except that Garuet-Lempirou is silent as to whether or not the laser is non-focused. In the specification on page 8, lines 11-15, Applicant admits that the specifics of the laser technology used in the laser scanners is known in the art. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have scanned the necessary portions of the foot with a non-focused "fan-shaped" line of laser light as

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this is known laser technology according to AAPA, and thus little trouble-shooting would be involved in using a known technology.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

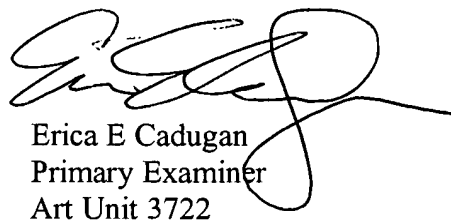
Faxing of Responses to Office Actions and Contact Information

6. In order to reduce pendency and avoid potential delays, TC 3700 is encouraging FAXing of responses to Office Actions directly into the Group at (703) 872-9306. This practice may be used for filing papers not requiring a fee. It may also be used for filing papers which require a fee by applicants who authorize charges to a PTO deposit account. Please identify the examiner and art unit at the top of your cover sheet. Papers submitted via FAX into TC 3700 will be promptly forwarded to the examiner.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erica Cadugan whose telephone number is (703) 308-6395. The examiner can normally be reached on Monday through Thursday from 7:30 a.m. to 5:00 p.m., and every other Friday from 7:30 a.m. to 4:00 p.m. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, A.L. Wellington can be reached at (703) 308-2159. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the TC 3700 receptionist whose telephone number is (703) 308-1148.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Erica E Cadugan
Primary Examiner
Art Unit 3722

eec
March 3, 2004